

## WHAT IS CLAIMED IS:

1. An observation window for a chamber exposed to microwaves, having a support frame (10) and at least one transparent cover plate (12a, 12b, 12c, 12d) affixed to the support frame (10) for closing off the chamber, wherein the at least one cover plate (12a, 12b, 12c, 12d) is covered on at least one side with a metallic screen (14a, 14b), which is impenetrable to microwaves, the observation window comprising:

the screen (14a, 14b) movably seated with respect to the support frame (10) and to increase an ability to view through the screen (14a, 14b) a drive mechanism (16, 18) moving the screen (14a, 14b).

2. The observation window in accordance with claim 1, wherein the screen (14a, 14b) is one of a lattice grid, a metal plate with a grid of holes (20a, 20b, 20c, 20d) and an open-worked flat arrangement piece.

3. The observation window in accordance with claim 2, wherein at least one of the screen (14a, 14b), the cover plate (12a, 12b, 12c, 12d) and the support frame (10) is formed at least one of rectangular, round and in any other arbitrary form, at least in parts.

4. The observation window in accordance with claim 2, wherein the screen (14a, 14b) is arbitrarily movable one of horizontally linearly, vertically linearly, diagonally linearly, circularly, irregularly and in any like manner.

5. The observation window in accordance with claim 4, wherein with at least one of the circularly shaped screen (14b) and the support frame (10), a circular movement of the screen with respect to the support frame (10) around a center (M) of the screen occurs.

6. The observation window in accordance with claim 5, wherein while performing a circular movement of the screen (14b) with respect to the support frame (10) a predetermined direction of rotation (D) is maintained.

7. The observation window in accordance with claim 6, wherein the screen (14a, 14b) is movable with respect to the support frame (10) at a predetermined oscillation amplitude and one of an oscillation frequency and a rotational frequency.

8. The observation window in accordance with claim 7, wherein a value of the oscillation amplitude corresponds at least to one-half of a distance (a, b) between two holes (20a, 20b, 20c, 20d) in the screen (14a) measured in a direction of an oscillation (A, B).

9. The observation window in accordance with claim 8, wherein the oscillation frequency is predetermined as a value of approximately 1 to 50 oscillation per second.

10. The observation window in accordance with claim 9, wherein the oscillation frequency is predetermined as a value of one of greater than and equal to 20 oscillations per second.

11. The observation window in accordance with claim 10, wherein when the oscillation amplitude is increased, a value of the oscillation frequency is reduced.

12. The observation window in accordance with claim 11, wherein the support frame (10) is at least partially of one of a metal and a similar material impenetrable to microwaves.

13. The observation window in accordance with claim 12, wherein the support frame (10) covers the screen (14a, 14b) at least in an edge area (20) at least around one side.

14. The observation window in accordance with claim 13, wherein the screen (14a, 14b) is conducted in a U-shaped recess (24a, 24b) extending at least partially around the support arm (10).

15. The observation window in accordance with claim 14, wherein at least one flexible, electrically conductive connection (26) is between the support frame (10) and the screen (14a).

16. The observation window in accordance with claim 15, wherein the screen (14a) is movably fixed on the support frame (10) by at least one elastic support element (28a, 28b, 28c, 28d; 30a, 30b, 30c, 30d).

17. The observation window in accordance with claim 16, wherein the at least one support element is embodied as a metallic, electrically conductive spring element (30a, 30b, 30c; 30d).

18. The observation window in accordance with claim 17, wherein the drive mechanism has a motor (16), which acts together with one of an eccentric disk (18) and an eccentric drive mechanism to oscillate the screen (14a, 14b).

19. The observation window in accordance with claim 18, wherein one of the eccentric disk (18) and the eccentric drive mechanism is connected with the screen (14a, 14b) by at least one resilient connecting element (32a, 32b) for generating the oscillating movements with the resonance frequency of the screen (14a, 14b).

20. The observation window in accordance with claim 1, wherein at least one of the screen (14a, 14b), the cover plate (12a, 12b, 12c, 12d) and the support frame (10) is formed at least one of rectangular, round and in any other arbitrary form, at least in parts.

21. The observation window in accordance with claim 1, wherein the screen (14a, 14b) is arbitrarily movable one of horizontally linearly, vertically linearly, diagonally linearly, circularly, irregularly and in any like manner.

22. The observation window in accordance with claim 3, wherein with at least one of the circularly shaped screen (14b) and the support frame (10), a circular movement of the screen with respect to the support frame (10) around a center (M) of the screen occurs.

23. The observation window in accordance with claim 1, wherein the screen (14a, 14b) is movable with respect to the support frame (10) at a predetermined oscillation amplitude and one of an oscillation frequency and a rotational frequency.

24. The observation window in accordance with claim 7, wherein the oscillation frequency is predetermined as a value of approximately 1 to 50 oscillation per second.

25. The observation window in accordance with claim 7, wherein the oscillation frequency is predetermined as a value of one of greater than and equal to 20 oscillations per second.

26. The observation window in accordance with claim 9, wherein when the oscillation amplitude is increased, a value of the oscillation frequency is reduced.

27. The observation window in accordance with claim 1, wherein the support frame (10) is at least partially of one of a metal and a similar material impenetrable to microwaves.

28. The observation window in accordance with claim 1, wherein the screen (14a, 14b) is conducted in a U-shaped recess (24a, 24b) extending at least partially around the support arm (10).

29. The observation window in accordance with claim 1, wherein at least one flexible, electrically conductive connection (26) is between the support frame (10) and the screen (14a).

30. The observation window in accordance with claim 1, wherein the screen (14a) is movably fixed on the support frame (10) by at least one elastic support element (28a, 28b, 28c, 28d; 30a, 30b, 30c, 30d).

31. The observation window in accordance with claim 1, wherein the drive mechanism has a motor (16), which acts together with one of an eccentric disk (18) and an eccentric drive mechanism to oscillate the screen (14a, 14b).